DOCUMENT RESUME

ED 158 625 HE 010 122

TITLE Higher Education into the 1990s. A Discussion Document.
INSTITUTION Department of Education and Science, London (England).; Scottish Education Dept., Edinburgh.
PUB DATE Feb 78
NOTE 23p.
AVAILABLE FROM Room 1/27, Department of Education and Science, Elizabeth House, York Road, London SE1 7PH, England

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *College Students; Declining Enrollment; *Educational Finance; *Educational Policy; Enrollment Projections; Enrollment Rate; *Enrollment Trends; *Foreign Countries; *Higher Education; Models; Population Trends; Resource Allocations; Statistical Data
IDENTIFIERS *Great Britain; Robbins Principle

ABSTRACT

An analysis of Great Britain's higher education system, primarily between 1981 and 1994, considers the possible implication of demographic trends and how that pattern may change over the next 15 years. The purpose of the paper is to direct public attention to the issues and encourage debate rather than present discrete policy options. Planning figures for higher education reflect a pattern in which young home entrants have predominated. Successive governments have provided for this group by following the principle advocated by the Robbins Committee of 1963 that higher education courses should be available for all qualified aspirants. Appendices include detailed data on student numbers from 1966-77; age distribution of faculty; distribution of students between art and science courses; and finance, fees, and expenditures. The current method of projecting full-time and sandwich student numbers is summarized and projections are presented on young home entrants, overseas and mature home entrants, and postgraduates. Higher education numbers from 1960-61 and statistical projections to 1995-96 are presented. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

- ED158625

Department of Education and Science and the
Scottish Education Department

Higher Education into the 1990s

A Discussion Document

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Controller of Her Britannic Majesty's Stationery Office
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

HE010122

February 1978

Additional copies of this discussion document are available from:

Room 1/27,
Department of Education and Science,
Elizabeth House, York Road, LONDON
SE1 7PH

or

Mrs. Young,
Division V,
Scottish Education Department
8 George Street, EDINBURGH

Higher education into the 1990s

Introduction

1. The fall in the birthrate since 1964 has already caused primary school rolls to decline sharply; over the next few years our secondary schools will face a similar decline; and our higher education institutions will begin to feel the effects in the early 1980s. This paper is about the development of Britain's higher education system in the face of that prospect. Its main focus is the period between 1981 and 1994. It considers the possible implications of demographic trends for the current pattern of higher education and how that pattern itself might change over the next 15 years. The various possibilities discussed are not a series of discrete policy options, since the eventual outcome may well lie in some combination of policies. Nor does the paper suggest answers or conclusions to the issues which it raises. Its purpose is more modest – to direct public attention to those issues and to encourage their debate by interested bodies and individuals. The Departments will welcome views and comments on all aspects of it.

The background

2. Britain's higher education system has almost tripled in size since 1960. It now caters for about 520,000 full-time and sandwich students and about 230,000 part-time students, on a variety of courses and in a variety of institutions. The present planning assumption is that full-time and sandwich numbers will increase by 1981 to 560,000. (Although, in practice, the Departments make appropriate allowance for part-time provision in short- and medium-term forward operational planning, part-time numbers and Open University courses are normally excluded from higher education planning figures.) The 1981 planning figure itself represents a downward revision of earlier figures based on assumptions of more rapid growth in demand than has in fact materialised over the intervening years.

3. Past growth in full-time and sandwich higher education provision and the planning figures adopted for years ahead have reflected a pattern in which, traditionally, young home entrants have predominated; and it is in providing for this group in particular that successive Governments have adhered to the principle enunciated by the Robbins Committee in 1963 that higher education courses should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so.

4. Appendix I gives a more detailed picture of the higher education system as it is now and of medium-term future developments already anticipated. Appendix II sets out forward projections of full-time and sandwich student numbers for the period up to 1994. It is important to emphasise that those projections assume that the higher education system will continue broadly along the same lines as at present: that is, that the Robbins principle will continue to apply and that the broad pattern of entry and of course duration will be what it is now.

5. Appendix II itself explains the detailed assumptions made about the various categories of student. The most crucial assumptions concern young home entrants. It is already certain that the 18 year-old age group (from

which most young home entrants are drawn) will begin to decline in size from 1982/83 and will fall much more steeply from 1990/91: the children are already born. But there is no certainty (nor can there be) about the proportion of the age group likely to be suitably qualified for and willing to embark on higher education courses. During the 1960s participation rapidly increased; but over the last seven years it has been steady at about 14% of the 18 year-old age group. (It is a measure of the uncertainties inherent in higher education projections that the figures underlying the projections in the 1972 White Paper, *Education: A Framework for Expansion*, Cmnd 5174, assumed that participation would now be growing to reach 22% by 1981 and still rising strongly.) The projections in Appendix II are based on variant assumptions about how participation rates will move over the period up to 1994: a "high variant" assuming growth to 21%, a "central projection" assuming growth to 18%, and a "low variant" assuming only very modest growth to 15%. Despite this range of uncertainty, the projections suggest that (on any of the variant assumptions about participation) demographic decline will be such a strong influence that total higher education numbers will reach a plateau in the mid-1980s and in the 1990s fall sharply. (It will of course be necessary to keep demographic trends under close review: the picture beyond 1994 could be materially affected by an early up-turn in the birthrate.)

6. The following charts illustrate both how full-time and sandwich participation rates and total student numbers have actually grown since 1960 and the forward projections detailed in Appendix II.

Chart 1. Age participation rates.

Higher education full-time and sandwich students:
Actual and variant projections to 1994/95, Great Britain.

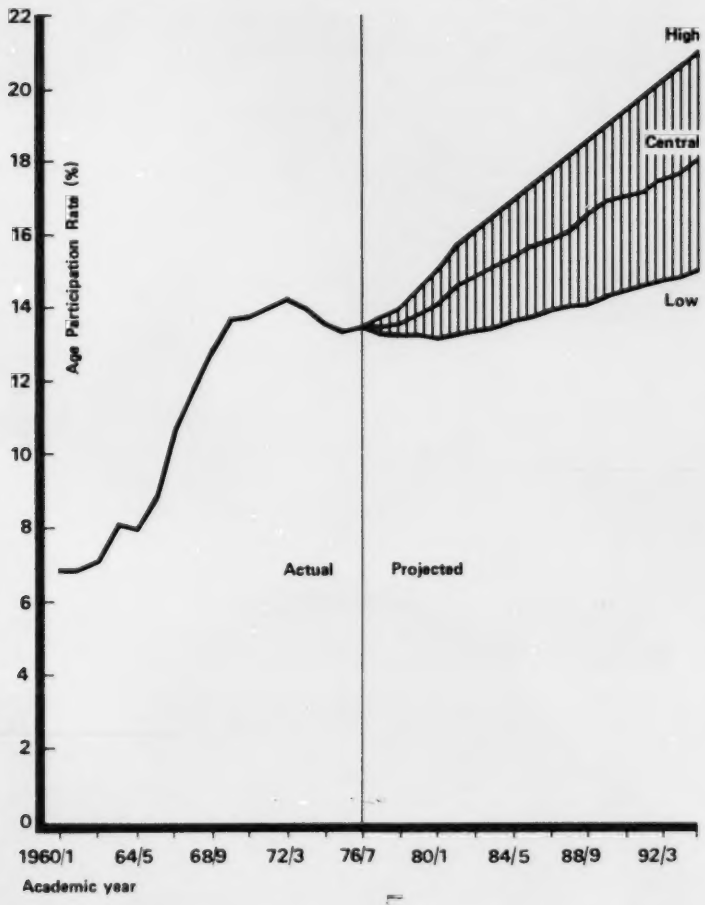
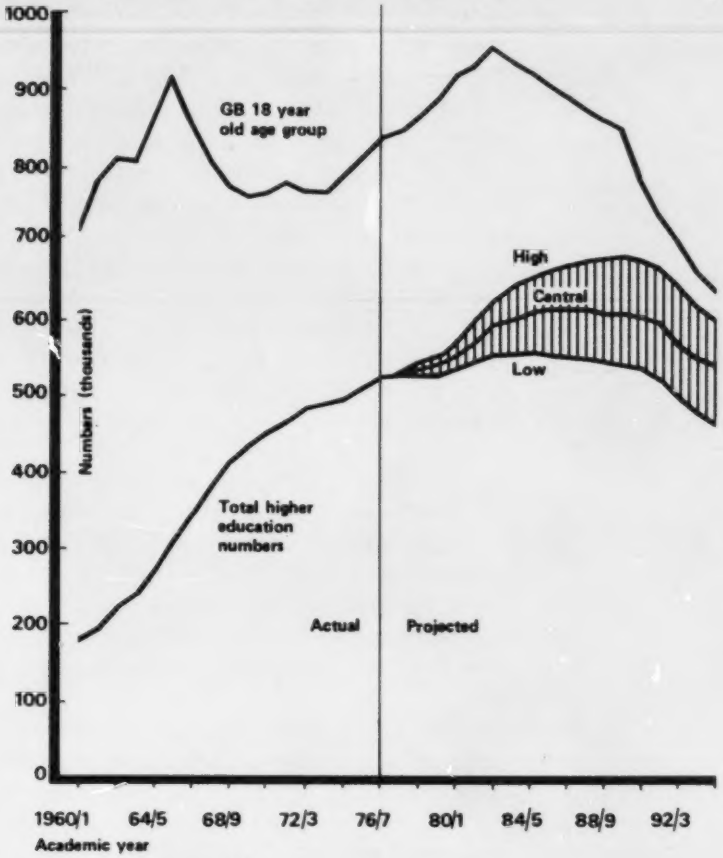


Chart 2. 18 year old population and total full-time and sandwich students in higher education, Great Britain



7. On the other hand, it is quite possible to envisage a pattern of higher education in the 1990s which differs in significant respects from that which obtains today. Courses might be longer (or shorter); the pattern of entry direct from school into higher education might be modified in various ways, for example by a growing tendency to seek some experience in employment before entering higher education; and the higher education system itself might reach out to embrace different types of students and to meet fresh needs, such as that of recurrent or continuing education. Developments such as these (many of which might not happen without the impetus of positive policy decisions of different kinds spread over time) need to be comprised within a different "family" of possibilities from those to which the above projections give rise.

8. This paper accordingly considers first the questions which appear to arise on the presupposition that the pattern (though not necessarily the scale) of higher education will remain much as it is now; and then proceeds to examine the different considerations which arise from possible modifications of that pattern.

The traditional pattern continued

9. The central projection in Chart 2 above suggests that total numbers in full-time and sandwich higher education might rise from the current figure of 520,000, through the current 1981 planning figure of 560,000 and up to 600,000 in 1984/85; numbers would then stabilise at that level for 6 years or so to 1990, when they would start to fall back to about 560,000 in 1992 and to about 530,000 in 1994. This would mean an increase of some 80,000 students over the next 6 years; followed by a contraction of 70,000 in the space of 4 years from 1990 to 1994; and possibly further contraction thereafter.

10. At present unit recurrent costs (averaged out across the higher education system as a whole), the "hump" between now and 1994, when the projected numbers fall back to approximately the present level, represents a total additional cumulative expenditure of about £2½ billion (an extra £240 millions per annum in each of the peak years). If this additional cumulative expenditure is measured between 1981, for which a planning figure of 560,000 has been set, and 1992, when the numbers fall to that same level, it amounts to about £1 billion (an extra £120 millions above 1981 costs in each of the peak years). There would also be additional capital expenditure if purpose-built accommodation were provided to match the peak: at current average unit capital costs, to provide new accommodation for 40,000 students (that is, the difference between the 1981 planning figure of 560,000 and the peak of 600,000) could require a commitment of something of the order of £200 million. All these figures are very rough approximations, but they serve to give some indication of the resource implications which would be involved.

11. If it were clear that higher education was going to follow this pattern over the next 14 years, acute problems of resource allocation would arise, especially in relation to other educational needs. In order to illustrate these problems, it is convenient to posit three models. As emphasised at the beginning of this paper, the models do not represent actual policies, but rather alternative approaches towards a policy which might combine a number of different elements. Nevertheless, the models themselves are instructive.

Model A

12. This might involve first expanding and then contracting the full-time and sandwich higher education system to the full extent postulated above. The kinds of problem to which contraction would give rise are broadly familiar from the recent history of contracting the teacher training system: they are principally those of acquiring and then disposing of unwanted buildings and of building up and then releasing staff no longer required. The disposal of buildings would perhaps present the lesser difficulty. Some would be becoming increasingly unserviceable in any case and might simply not be replaced. The sale of buildings might not present serious problems, since so much of the higher education plant occupies valuable city centre sites. Nevertheless, public money would inevitably be spent on capital provision for some short-term purposes.

13. But reducing staff numbers as a whole would be a very difficult process. The age profile of university staff described in Appendix I suggests that the great majority of staff now in posts will still be there in the early 1990s, and many of them will still be under 50. (The problem does not only apply to junior staff: many professors are now under 50). Moreover, a more detailed analysis by subjects taught shows that the age distribution of teachers of the social sciences, for example, is even more strongly skewed towards younger staff than the overall figures suggest. So if it were necessary to shed any significant numbers of staff over a short period, it would be very difficult to achieve this by relying on natural wastage and retirements alone. Even if something could be achieved in this way, a period of steady staffing numbers followed by a period of decline would have a serious effect on the career prospects of junior staff, and would make it difficult to recruit the young talent necessary to the vitality of the higher education system's research function. Some (and perhaps extensive) redundancies might therefore be unavoidable, at a high cost to public expenditure, to morale and – by no means least – to the personal lives of those concerned.

Model B

14. This model might involve reducing the scale of the projected expansion after 1981, and therefore the need for so much contraction after 1990. It therefore involves a substantial risk of reduced opportunities for qualified

higher education applicants during the years of the projected peak, which would in effect mean a break (if only temporary) with the Robbins principle. How serious the risk would be depends on which of the three forward projections already referred to most nearly reflects what would happen to student numbers if they were subject to no new constraints. Thus, on the basis of the "low variant" projection, to freeze the system at the 1981 level of 560,000 students would not involve reduced opportunities; but such a freeze would involve a significant loss of opportunity on the basis of the "central projection", and of course a still larger loss of opportunity on the basis of the "high variant" projection. (This is only another way of saying that if participation does not rise appreciably above the levels obtaining since 1970, the 1981 planning figure represents all the provision which the higher education system will need for the foreseeable future.)

15. Some people might be disposed to argue in favour of explicitly abandoning the Robbins principle on the following grounds. Higher education confers social and economic benefits, both personally on the individual student and more widely on the community at large. But as the higher education system expands, graduates are increasingly having to turn for employment to jobs previously filled by people without higher education qualifications. This has contributed to suggestions from some quarters that higher education provision may have come implicitly to place too great an emphasis on meeting students' personal wishes and too little on the economic needs of society as a whole; and some sections of opinion complain from time to time that higher education provision is inadequately informed by manpower planning. Recent publicity about increases in the time taken by new graduates to find suitable employment has tended to highlight concerns of this kind. On the other hand, past experience with manpower planning does not suggest that it can offer any very precise guide to higher education provision (except in those limited areas where the Government is, in effect, the sole employer of those with particular kinds of qualification). Moreover, at a time when we know that demographic change will mean a decline in the numbers of young people available for employment, it might seem perverse and shortsighted to hold down deliberately the proportion of those young people having access to higher education and its qualifications.

Model C

16. A third possible "resource" approach would be to adopt a policy of catering fully for projected student numbers (even if in the event they rose above the "low variant" projection) but to do so more economically, in terms of both recurrent costs and long-term resource commitments. To some extent it may be possible to look to developments in educational technology to reduce unit costs without detracting from the quality of provision. It seems unlikely that these would secure the required measure of economy: in the past they have tended to improve the quality without reducing the cost. Beyond this there are various expedients which could be considered.

17. One step which should be feasible would be to avoid long-term resource commitments while maintaining so far as possible current standards of provision. This might mean, for example, renting rather than building to meet short-term accommodation requirements; and appointing temporary staff both for teaching and other purposes to tide the system over for the few years of the projected peak in numbers. To the extent that this could be achieved, it might make it easier to shed both staff and buildings as student numbers fell at the end of the 1980s.

18. Further study would be required to establish how much scope there would be for makeshift arrangements such as these. Already the further education sector is having increasing difficulty in finding temporary rented

accommodation, and it may not be possible to rent sufficient accommodation for up to another 40,000 students within two or three years at the beginning of the 1980s. Temporary staff appointments would also present problems. But it might be possible to achieve a good deal by short-term secondments from industry and the professions, by making more use of part-time teaching staff and by encouraging postgraduate research students to take on a larger teaching role than they have now.

19. A more drastic approach would be to adopt a deliberate policy of not adding either to accommodation or to staff numbers beyond those necessary to provide for, say, 560,000 students at current accommodation and staffing standards. On this basis, accommodating an extra 40,000 students in each year of peak numbers (assuming the "central projection") would require a 7% squeeze in accommodation standards and unit teaching costs. A 7% deterioration in staffing standards would not overall produce a student:staff ratio higher than the 10:1 proposed for 1981 in the 1972 White Paper, but it could create serious difficulties for many individual departments and institutions. So far as buildings are concerned, much might in theory be achieved by more economical management of existing departmental accommodation (for example, by improved space utilisation and by filling up classes so far as possible to optimal size), but it might not prove feasible to match local requirements and resources with the degree of precision which this might imply. Other possible temporary expedients could include extending the teaching day, longer terms, introducing summer terms, a changeover to 4-term years and "Box and Cox" arrangements, though none of these would necessarily achieve any very significant unit cost savings.

20. In so far as approaches such as these could not be carried through entirely by relying on technological developments or more economic management of existing resources, they could result in some reduction (albeit temporary) in the quality of higher education provided in British institutions. Even if this could be avoided, reducing unit costs would not be a recipe for admitting 40,000 additional students at no extra cost: total student support costs (and probably some non-teaching costs too) would rise pari passu with student numbers; adapting buildings for more intensive use would involve some capital costs; and some new staff appointments would be necessary to reflect charging subject preferences and patterns of staff retirements and wastage.

Modified patterns of higher education

21. Models A, B and C all presuppose a higher education system in the 1990s which is broadly on the same lines as the present system. This section turns attention to possible new developments which might modify the future pattern of higher education to a lesser or greater extent. One set of possibilities involves reducing the projected peak in student numbers; another might have the effect of averting the subsequent decline. The possibilities are discussed below primarily in terms of changing patterns of provision or of entry. But it is important to bear in mind that changes of this kind would inevitably require consequential changes in a range of secondary Government and institutional policies. Thus, for example, the present structure of student awards reflects current patterns of provision and entry: if those patterns were to change significantly, the awards structure too would need revising. Again, the present policies of many validating bodies reflect the fact that, for most students, the pursuit of a higher education course is a continuous process: if discontinuous study became more prevalent, validating bodies would need to be more flexible, particularly in such matters as the transferability of part-course credits.

Model D

22. It might be possible to cater for all students seeking entry to higher education in the 1980s without needing to allocate resources to the full extent

implied by the peak levels of the "central projection" in Appendix II. Such a step might mean interpreting the Robbins principle in a new way, though it would retain intact the underlying philosphy referred to in paragraph 3.

23. One way of maintaining intakes while constraining total numbers would be to encourage provision and take-up of two-year rather than three-year higher education courses. The Diploma of Higher Education might offer one vehicle for this, and there might also be the possibility of accelerated degree courses for the most able students. If a change to two-year courses were to constitute the sole means of keeping total numbers at a maximum of 560,000, those courses would need to divert an entry of up to 40,000 students a year from longer courses for a limited period. A switch on this scale would involve the higher education institutions in a massive (and expensive) exercise in course planning, but this does not mean that it might not be feasible; and changes in the awards structure could be used to encourage take-up.

24. Another possibility which could help to ease the problems of planning for the 1980s would be to divert students from full-time to part-time courses. Already full-time and sandwich course students represent little more than 50% of those in advanced further education excluding teacher training (although about 90% of those in universities, where degree courses are much more dominant). Existing part-time advanced courses are often stretched out over many years, and individual students may attend for as little as one day a week. For the last seven years, the Open University has also offered its own particular contribution to part-time higher education.

25. However, existing part-time advanced provision in the maintained sector is largely confined to strongly vocational courses, and students on them are usually already in related occupations. There is little evidence of unsatisfied demand. At the Open University too, the range of subjects available is limited. And in both the Open University and maintained institutions, courses are frequently very long and wastage rates high: this reflects in large measure the very considerable demands which part-time study imposes on individual students, testing their motivation to the utmost. Nevertheless, more generous financial assistance for part-time students (as, for example, in the form of longer periods of paid educational leave from their employment) might both encourage take-up and reduce wastage.

26. One particular further possibility which could have the effect of smoothing out the projected peak in student numbers would also have educational merits. Individual students and institutions can both benefit from deferring initial entry to higher education for a period after leaving school. Already some institutions may encourage students to obtain work experience between school and higher education by offering them a place for a year ahead. It is possible to envisage a formal system of deferment, under which individuals applying for entry straight from school for whom no place was available would be given priority over first-time applicants in the following year. The following table illustrates the effect of a simplified scheme of this sort. It assumes total provision for 560,000 students and that all the students not finding places straight from school would in fact re-present themselves a year later. It suggests that the proportion of deferred entrants could rise as high as 70% of all applicants in the most difficult year, and might be running at over 25% from 1984/85 until well into the 1990s.

Table 1: **Deferring demand**

Academic year	Numbers with entry deferred '000s	As a percentage of total numbers of young home entrants on the "central projection"
1980/81	1.8	1.1
1981/82	9.1	5.2
1982/83	22.2	12.2
1983/84	35.5	19.6
1984/85	48.5	26.8
1985/86	61.3	33.9
1986/87	74.1	40.9
1987/88	85.4	47.6
1988/89	96.8	53.9
1989/90	109.0	60.4
1990/91	113.7	65.8
1991/92	112.1	67.3
1992/93	106.1	65.4
1993/94	94.7	60.4
1994/95	81.0	52.4

27. It is difficult to see such a scheme operating fairly on a systematic basis. Institutions would naturally be inclined to give preference for immediate entry to the most able candidates and heavy wastage might occur among the less able (though random selection for deferment or higher grants for deferred-entry students might help to overcome this kind of problem). It is also important to recognise the possible impact of widespread deferment on the employment situation: even at low levels of youth unemployment, children with parents in professional and managerial occupations would probably find it easier than others to obtain temporary jobs for a year before entering higher education; and those who did find employment might do so only at the expense of other youngsters not intending to go on to higher education at all.

28. Short of a formal system of deferment, however, it might be possible to take steps to encourage and facilitate voluntary deferment. Again, one way of doing this might be to introduce higher grants for deferred-entry students, which might in practice be achieved by lowering to 21 the age at which students are regarded as independent of their parents for award purposes.

29. A slight variant of this kind of approach, which would have a similar impact on the incidence of peak student numbers, would be to encourage more students to spend a year in employment in the middle of their higher education courses. An increase in the number of sandwich course students would be one way of achieving this, although there might be little saving in academic staff time because of the need for some continuing supervision during a student's intercalated year of employment.

Model E

30. All the preceding models have taken as their base an assumption that there will be a sharp decline in the numbers of students coming forward for higher education at the end of the next decade. The final possibility to be examined, however, might arise if social and economic requirements brought about significant changes in the pattern and composition of the higher education student body.

31. For example, Appendix II draws attention to the possibility that changes

in social class mix may increase participation during the 1980s. This would be a purely demographic factor, reflecting the fact that the birthrate in recent years has declined least sharply in professional and managerial families from which a large proportion of present young home entrants to higher education are drawn. But there is also the possibility of taking positive steps as a matter of social policy to encourage participation by children of manual workers to approach more closely the level of participation by children of non-manual workers.

32. Recent evidence suggests that youngsters take their decisions about whether or not to aim for higher education well before they reach the age of 18; and that social, cultural and peer-group influences are crucial factors in those decisions. While it may be difficult to point to any particular measures which would have a swift and significant impact on participation by children of manual workers, it is at least possible that participation by this group will by the 1990s be as much affected by the gathering impact of policies in the fields of housing, health and the social services generally as by educational policies. Moreover, in the educational field itself, comprehensive reorganisation is already transforming secondary schooling; when this process is complete no children will be educated in institutions which, by their status, nature and organisation, are apt to cut off their pupils from higher education opportunities. In the climate which reorganisation will have created, higher education may be made a more attractive prospect for young people from poorer home backgrounds.

33. Another possibility is that the demand, which is already beginning to make itself felt, to devote more educational resources to those already in employment might result in more systematic opportunities for recurrent education for mature students. Priority might be given at first to those who had missed higher education opportunities at normal entry age. But this might not preclude more radical developments, such as a systematic scheme for continuing education at an advanced level, or indeed at a non-advanced level. This kind of possibility would be of direct concern not only to the education service, but also more widely, and particularly to the TUC and the CBI in so far as it might have implications for employment levels and for the terms and conditions of employment of individuals. Any more detailed examination of the possibility of increasing participation by those in employment would need to take this aspect fully into account.

34. It must be recognised that substantial changes of far-reaching social importance are involved in this Model. There may be losses as well as gains; and the resource implications are great. It is unlikely that any of the developments envisaged could happen without a major lead from Government. This might mean new financial incentives to encourage take-up by people in employment (whether this was in the form of paid educational leave for continuing education or more generous grants for mature students on full-time courses at degree or equivalent levels) and perhaps also some compensation for employers. On the other hand, this prospect needs to be viewed in the perspective of continuous social, economic and technological change, which may demand more emphasis on continued education, and may be accompanied by changes in patterns of employment or of unemployment.

The main issues

35. As already emphasised, the five Models described in this paper are not so much policy options as the strands out of which a policy might be woven. The weight to be placed on each of them is a matter of judgment.

36. The paper has deliberately concentrated on a single problem – the implications of projected changes in total higher education numbers in the

1980s and early 1990s. Inevitably, this has meant leaving on one side other important topics. They include possible changes in the 1980s in the arts/science mix and in the sectoral split between universities and other higher education institutions; possible policy developments on postgraduate and overseas student numbers; and comparability of provision across the binary line. All these issues could have potentially profound implications for the higher education system, and the Departments will keep them under review as appropriate. But they are perhaps essentially second-order questions compared with the certainty of a sharp decline in the 18 year-old age group.

37. The Departments would welcome the views of the interests concerned (both within and outside the education service) on the various Models set out above and on the principal questions which arise from this paper as a whole:

i. are the projections of student numbers based on reasonable assumptions?

ii. could higher education institutions contract their provision as sharply in the early 1990s as these projections imply?

iii. does it make sense for the higher education system to expand to meet the full peak in projected student numbers?

iv. would it be wiser to aim at a lower peak provision to avoid difficulties of subsequent contraction?

v. should the Robbins principle continue to guide the provision of higher education?

vi. what scope is there for encouraging students to embark either on shorter full-time courses or on part-time courses?

vii. would it be feasible and desirable to develop deferred entry to higher education on a sufficient scale to make a major contribution to easing the problems of the 1980s?

viii. what scope is there for reducing higher education cost per student by improved use of resources without reducing the quality of educational provision?

ix. how far could the problems of the 1980s peak be reduced by limiting resource commitments to the short term through the use of temporary staff and accommodation?

x. during the peak years would such temporary expedients as longer terms or summer terms be acceptable to the higher education institutions?

xi. what measures might be found to extend participation on a broader social basis so as to avert a demographically-linked decline in student numbers at the end of the 1980s?

xii. what would be the advantages and disadvantages of using resources no longer required for young home entrants to extend educational opportunities for people in employment?

xiii. what would be the implications of any changes in the present pattern of higher education for the structure of student awards and of higher education courses and qualifications?

xiv. if the diversity of our institutions is a source of strength in meeting diverse needs, might some of the answers to the above questions desirably be different for the universities on the one hand and the maintained sector of higher education on the other?

Anyone wishing to send the Departments written views on these issues should address them, as appropriate, to:

The Permanent Secretary, Department of Education and Science, Elizabeth House, York Road, London SE1 7PH;

or

The Secretary, Scottish Education Department, New St. Andrews House, Edinburgh EH1 3SY.

Appendix I

Present higher education policies and practice

1. The term "higher education" in this document covers full- and part-time advanced courses provided in universities (including the Open University), polytechnics and other maintained, grant-aided or assisted further education institutions (including the former colleges of education in Great Britain). "Advanced" courses are broadly those which lead directly to qualifications of a higher standard than GCE Advanced level or its equivalents.

Numbers
Students

2. The growth in higher education student numbers since 1966 is shown in Tables 2 and 3 (covering respectively full-time and sandwich students and part-time students). In 1976/77 there were 516,000 full-time and sandwich students; and about 230,000 part-time students, of whom 40,000 were taking courses in the evenings only. The last public expenditure White Paper* assumes increases by 1981/82 to 560,000 full-time and sandwich students and a total of about 250,000 part-time students. As explained in Cmnd 7049 (II), the growth allows for known demographic changes together with an increase in the participation rate of young post-school entrants (see Appendix II) from about 13½ per cent currently to 14½ per cent in 1981. Overall university numbers are planned to increase by 14 per cent over 1976/77 levels, while in the non-university sector the planned reduction in teacher training will be fully compensated by provision of other advanced level courses.

Table 2: **Total GB higher education full time and sandwich student numbers 1966/67 to 1981/82**

	All students ('000s)							Overseas students ('000s)			University postgraduates ('000s)		
Academic year	GB Universities	E&W[1] Teacher training	E&W Other AFE	E&W Public sector	Scotland Public sector	GB Public sector	GB HE	GB Universities	GB Public sector	GB HE	Home	Overseas	Total
1966/67	184.8	85.8	54.0	139.8	14.7	154.4	339.2	16.9	7.6	24.5	22.9	9.1	32.0
1967/68	200.1	97.6	64.9	162.5	16.4	178.9	379.0	15.2	6.6	21.8	26.2	8.8	35.0
1968/69	211.5	106.1	74.7	180.8	18.0	198.9	410.4	15.7	5.7	21.4	28.7	9.1	37.8
1969/70	219.5	109.2	81.0	190.2	20.2	210.4	429.9	16.5	5.9	22.4	29.4	9.7	39.1
1970/71	228.1	112.2	84.8	197.0	21.2	218.2	446.3	18.0	6.0	24.0	31.3	10.8	42.1
1971/72	235.0	114.7	90.7	205.5	23.3	228.2	463.8	19.7	7.1	26.8	32.7	11.8	44.5
1972/73	239.4	116.0	93.1	209.0	24.9	234.0	473.4	21.8	7.6	29.4	33.0	13.1	46.1
1973/74	244.1	114.3	96.8	211.1	25.8	236.8	480.9	24.7	9.6	34.3	32.2	14.6	46.8
1974/75	250.6	108.2	102.0	210.2	26.2	236.4	487.0	27.8	12.1	39.9	31.8	16.0	47.9
1975/76	261.3	100.8	115.2	216.0	27.4	243.4	504.7	31.2	16.7	47.9	32.6	17.2	49.8
1976/77[2]	271.8	86.5	130.3	216.8	27.4	244.2	516.0	33.7	21.1	54.8	32.3	18.0	50.3
1977/78[3]	277					241	518			52			
(1977/78)	(279)					(238)	(517)						
1981/82[3]	310	38	181	219	31	250	560			44			

Notes: [1]Excluding university departments of education, which are included with universities.

[2]Provisional

[3]Figures for the years 1977/78 and 1981/82 are as given in *The Government's Expenditure Plans 1978/79 to 1981/82*, Cmnd 7049, Volume II, Page 78. Bracketed figures are the latest estimates for 1977/78.

*Cmnd 7049, *The Government's Expenditure Plans, 1978–79 to 1981–82.*

Table 3: **Part-time students in higher education**

Academic	GB Universities[1] (excluding Open University)			Open University[2]			England & Wales[3] Advanced further education			Scotland[4] public sector	Total
	Under-graduate	Post-graduate	Total	Under-graduate	Post-experience and others	Total	Part-time day	Evening only	Total		
	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)
1966/67	4	13	17	–	–	–	61	47	108	9	133
1967/68	4	14	18	–	–	–	68	47	115	10	143
1968/69	5	16	21	–	–	–	69	43	112	9	142
1969/70	5	19	24	–	–	–	72	43	115	11	150
1970/71	5	18	23	20	–	20	69	40	110	10	162
1971/72	3	19	23	32	–	32	70	38	107	10	172
1972/73	3	20	23	38	2	41	71	37	107	9	180
1973/74	3	20	23	43	3	46	73	36	108	10	187
1974/75	3	21	24	49	7	56	80	36	116	12	208
1975/76	4	21	25	51	5	56	85	38	123	13	217
1976/77	4	22	26	55	13	68	88	37	125	13	233

Notes: [1]Students enrolled in December, in general excluding those on short courses. Definition changed in 1971/72

[2]Students registered at any time during the calendar year beginning in the second year shown

[3]Students enrolled in November

[4]Students enrolled at any time during the year

3. Within the 1976/77 full-time and sandwich totals, there were about 40,000 home postgraduate students (including those not in universities) and about 55,000 overseas students (that is, including both undergraduates and post-graduates). The public expenditure White Paper assumes that home postgraduate numbers will remain at roughly their present level until 1981/82; and that overseas student numbers will decline slightly to a total of about 44,000 over the same period.

The arts/science split

4. In practice, applicants qualified for higher education do not have an automatic right of entry to whatever course they choose. Individual institutions determine their own selection procedures. Nationally, quotas are set for admission to initial teacher training and pre-clinical courses, related in both cases to central assessments of qualified manpower requirements. Current policies for 1981 are to admit about 4,000 medical students and about 9,500 non-graduate initial teacher training students in England and Wales (11,500 including Scotland).

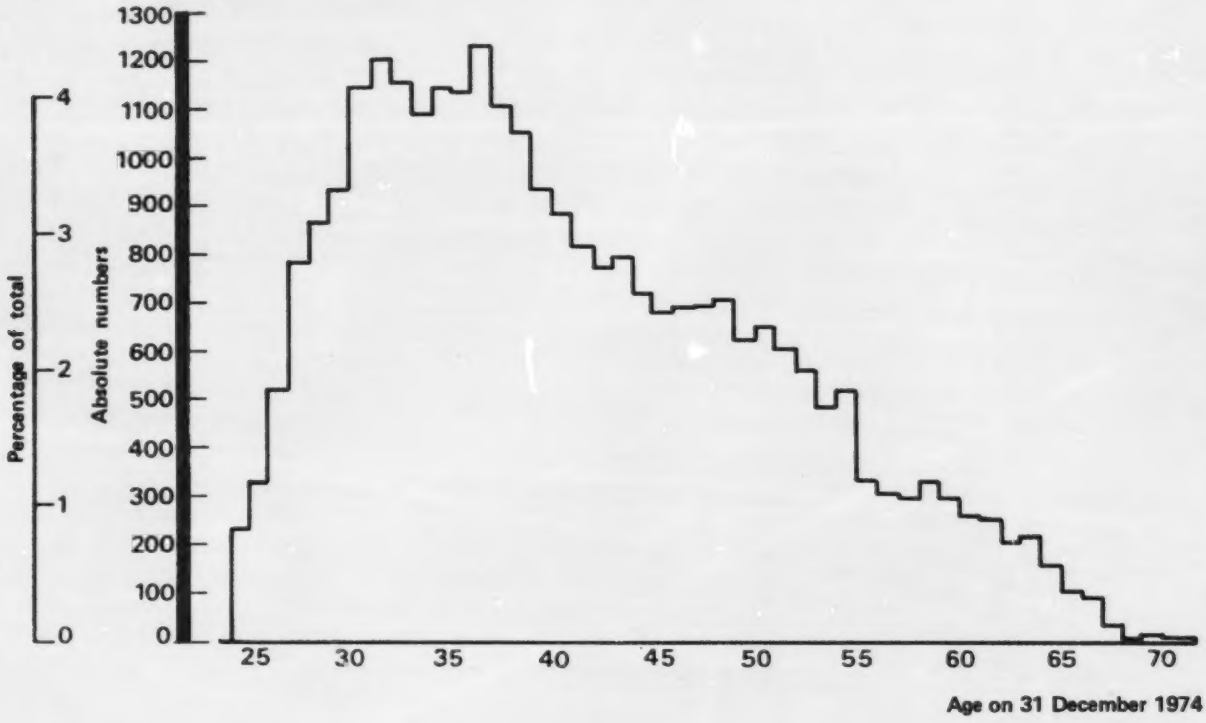
5. The distribution of higher education students between arts-based and science-based courses is not formulated as an explicit Government policy, although it has been the subject of much public discussion, reflecting broad judgments of social and economic needs. In 1976/77, the actual arts/science split for full-time and sandwich courses was 50/50 for higher education excluding teacher training, and 60/40 for higher education as a whole. The precise implications of recent trends for the split in the period up to 1981/82 are still being considered.

Teaching staff

6. In 1976/77 higher education teaching staff numbered about 32,000 in universities (full-time staff paid wholly from university funds) and the equivalent of a further 32,000 full-time staff teaching advanced courses in the maintained sector. The student: staff ratios implied by these totals are 8.9:1 in universities and 8.4:1 in the maintained sector.

7. The age profile of higher education teachers reflects the large numbers of young staff recruited during the rapid expansion of the 1960s and early 1970s. Chart 3 gives a snapshot by age of non-clinical teaching staff in universities

Chart 3. Age distribution of university academic staff.
All subjects, total (non-clinical, wholly financed by universities), Great Britain



three years ago. The majority of staff then in post were under 40, and only about 10% were over 55. Similarly detailed figures are not available for higher education teaching staff in the maintained sector, but their age distribution is also likely to be skewed towards younger staff.

Buildings

Institutions

8. There are now 43 universities (excluding the Open University), compared with 23 in the early 1960s. In the maintained sector, full-time and sandwich higher education provision in England and Wales is largely confined to 30 polytechnics (all designated in the late 1960s and early (1970s) and to the former colleges of education; but there are also nearly 200 very diverse further education institutions combining much more limited provision of full-time advanced courses with a variety of other work (whether part-time advanced courses, non-advanced courses or some combination of the two). In Scotland the bulk of higher education courses outside the universities is provided in some 20 central institutions and colleges of education; in addition, full-time advanced courses are provided in 20 further education colleges, although again for the most part on a more limited scale.

Sectoral split

9. The 1976/77 total of 516,000 full-time and sandwich students was divided in the ratio 272/244 between the university and the maintained sectors of higher education. The allocation of the 1981/82 planning total of 560,000 full-time and sandwich students between the two sectors is 310/250, reflecting a judgment about the likely capacities of the two sectors and of the ability of the maintained sector to expand non-teacher training courses to fill places left vacant by the overall reduction in teacher training numbers. Of the 1976/77 total of about 230,000 part-time students, over 200,000 were in the maintained sector; most of the 26,000 in universities (excluding the Open University) were postgraduates.

Capacity and utilisation

10. It is not possible to give precise figures for capacity and utilisation. This is partly because the university and maintained sectors use different measures of capacity; and partly because the border-line between accommodation for advanced and non-advanced courses in the maintained sector is inexact. It is clear that there are at present two major areas of under-utilisation. One is accommodation in former colleges of education left vacant by the reduction in teacher training numbers but not yet taken up by students on other types of course. The other is departmental science accommodation in the universities, where an estimated 20,000 science places are at present either unused or used for non-science purposes. But growth to a total of 560,000 full-time and sandwich students by 1981 should fill up most if not all of the presently under-utilised accommodation in both sectors.

Student residence

11. At present, about two-fifths of full-time and sandwich higher education students live in institution-provided accommodation; a similar proportion are in privately rented accommodation; the rest live at home. Privately rented accommodation is diminishing and students face increasing competition from other single persons. But shortage of accommodation is proving less of a problem than was feared when the 1981/82 higher education planning figure was 750,000 students. Some local housing authorities have made available for student use some "short-life" buildings and some which are otherwise difficult to let; and this has afforded some relief both in the maintained sector (which has a smaller proportion of institution-provided accommodation) and in the universities. Both sectors have benefited from the limited amount of new purpose-built student residence coming into use.

Finance

Fees

12. The Government has no statutory power of direct control over higher education fees in the university sector and only limited statutory powers (used only in Scotland) in respect of the public sector. However, it does recommend fee levels for various types of course, and the Rate Support Grant and the Universities Recurrent Grant settlements assume that those recommendations are generally followed.

13. So far as full-time and sandwich courses are concerned, in practice only overseas students and a minority of home students (perhaps 5%) have to pay their own fees. For 1977/78, recommended fee levels have been increased: they now cover about 20% of gross recurrent costs (taking advanced and non-advanced courses as a whole); the latest public expenditure White Paper assumes that the savings in which this increase is resulting in 1977/78 will be carried through to 1981/82.

Student support

14. The arrangements for student support are complex in detail; and no more than a general summary is necessary for the purposes of this paper. Most UK residents on full-time and sandwich first degree and comparable courses are eligible for mandatory awards from their local education authorities or from the Scottish Education Department. The awards cover fees and a basic maintenance grant related both to means and to the student's residential base. Grant rates are reviewed annually to take account of inflation. The current average net grant after deduction of contributions and excluding fees is estimated at about £750.

15. Postgraduate awards are made by the two Departments and by the Research Councils. They too cover both fees and maintenance, the latter at a level up to 45% more than non-postgraduate maintenance grants.

16. Assistance to part-time students is left to the discretion of local authorities because of the very wide range of courses taken part-time, the different circumstances in which they are taken and the consequent wide variation in the needs of the students.

Expenditure

17. Precise figures for public expenditure on higher education are not available because of such factors as the lack of information about the split between expenditure on advanced and non-advanced provision in the maintained sector. But for present purposes some rough estimates of recurrent expenditure have been made, based on 1976/77 out-turn data, as follows:

Table 4: **Recurrent expenditure on higher education in Great Britain** 1976/77 (1977 Survey prices)

	£ millions
Universities[1]	660
Other institutions[2]	304
Mandatory awards	312
Discretionary awards	29
Postgraduate awards	31
	1336

[1] Universities on UGC Grant List and other university institutions (eg Royal College of Art, Open University, etc.)

[2] Institutions maintained by LEAs and other institutions in receipt of central government grant.

This total represents about 18% of all recurrent expenditure in 1976/77 by the Department of Education & Science, the Scottish Education Department and the Welsh Office.

18. Figures for capital expenditure on higher education are subject to much the same limitations as those for recurrent expenditure. But, again on the basis of a rough estimate made for present purposes, capital expenditure on higher education in 1976/77 is estimated to have been £154 million at 1977 Survey prices.

19. More detailed computations of unit costs suggest an across-the-board average net annual cost per student/place in higher education of about £2,750 at 1977 Survey prices (including an allowance for capital). For supported home entrants, it is necessary to add £750 in respect of maintenance grant (see above), giving a total of about £3,500. However, at least at some institutions, the marginal unit costs of taking on additional students might be less than overall average unit costs.

Appendix II

Projection of full-time and sandwich student numbers in higher education in Great Britain

Introduction

1. The methods used by the Departments to project full-time and sandwich student numbers in higher education, though straightforward in concept, include the use of many series and relationships. This Appendix does not attempt to explain those methods and set out the results in every detail. But it is intended to give a sufficient summary for the purposes of the main discussion document itself.

2. The current method of projecting full-time and sandwich student numbers in higher education is to project the three main first-time-entry streams (that is, young home entrants, mature home entrants and overseas entrants) and then to convert the resulting figures to total student numbers. There are separate series for university and non-university sectors over the period for which separate planning figures are fixed. Postgraduate entrants to universities are projected separately and converted to total numbers for inclusion in the overall figures. The table at the end of this Appendix gives key series from 1960/61 to 1994/95 for higher education as a whole.

Young home entrants

3. Young home entrants represent about 70% of all entrants. For long-term illustrative projections, calculations are based on the size of the 18 year-old age group and the "age participation rate" (APR), which is the number of home entrants under 21 expressed as a percentage of the age group. The APR reflects both the proportion of the age group represented by the numbers of qualified leavers and the percentage of those qualified leavers opting for higher education, and for short-term projections these underlying series are also examined.

4. For the period up to 1994/94 the size of the 18 year-old age group is known with some confidence – 822,000 in 1976/77, rising to a maximum of 941,000 in 1982/83, declining moderately until reaching 834,000 in 1989/90 then rapidly to 630,000 by 1994/95. This leaves future movement in the APR as the main area of uncertainty, and past experience has shown how difficult it is to predict accurately. A rise of a single percentage point in the APR at any time up to 1994 could add between 22,000 and 31,000 places to total higher education numbers, depending on precisely when it occurred.

5. The APR rose rapidly throughout the 1960s (from 6.9% in 1961/62 to 13.7% in 1969/70), pushing up total student numbers steadily, even in the face of a sharp decline in the 18 year-old age group from 906,000 in 1965/66 to 741,000 in 1969/70. Since then it has remained fairly flat, ranging between 14.3% and 13.0% in 1976/77. The tendency for it to fall in recent years has been associated with the rapid decline in teacher training entry. The prospect of an end to that decline gives ground for expecting some recovery in the APR after 1978 to reach a little under 15% in 1981/82. But assessing the possible impact of other factors which may influence the APR is much more difficult.

6. Perceptions of economic benefits and costs almost certainly have some influence on higher education entry decisions at the margin. Among the factors which prospective students might take into account are levels of unemployment among school leavers; the differential between student grants

and the net incomes of school leavers in employment; levels of graduate unemployment; and the increased earnings potential which higher education is thought to bring. But it is difficult to predict how such factors may influence the numbers seeking admission to higher education in the 1980s. It may be that faster economic growth in the wake of the full benefits of North Sea oil might increase demand for highly qualified manpower in the mid-1980s and thereby the flow of students presenting themselves for higher education. On the other hand, the highly qualified manpower stock may well continue to rise faster than the number of vacancies in traditional graduate occupations, which could serve to discourage some potential higher education entrants.

7. The APR can also be materially affected by social changes. Calculations based on total numbers of 18 year-olds conceal the potentially important point that entrants to higher education are drawn in very different proportions from different occupational groups. Research indicates that the differentiation mainly occurs at 16, when decisions are made whether or not to stay at school.

8. A recent study by the Office of Population Censuses and Surveys shows that, for the years 1970 to 1975, the average annual rate of decrease in legitimate live births was 0.8% for social classes I and II, while that for other classes was 6.6%. About half the entrants to higher education currently come from classes I and II (estimated on the university pattern) and the rate at which they seek entry to higher education may not decrease as fast as the population of young people in the late 1980s. This together with further evidence on birth patterns from the 1951 and 1961 Censuses suggests that, over the whole period up to 1994/95, the effect of social class might increase the APR by up to three percentage points.

9. Except in postgraduate courses, women have achieved nearly equal participation in full-time higher education as a whole; their predominance in teacher training has offset their relatively low – though increasing – entry to degree courses. Continuing reduction in teacher training numbers will provide fewer opportunities for women in future, so improvement to full equality in terms of the APR will mean first attracting large numbers of women to alternative advanced level courses. It would be premature to assume a higher total APR or an increase in mature women entrants until these changes can be assessed.

10. Predictions based on extrapolation of short-term trends in the APR are inevitably liable to a wide degree of error. For the present paper, three illustrative assumptions have been adopted. The highest is that the APR will rise to 21% by 1994/95 (that is, an improvement of about a half over the 1976/77 level); the central assumption posits a more moderate recovery to 18% by the end of the period (which broadly continues the rise already assumed in setting the 1981/82 planning figure of 560,000 places); and the lowest posits only a very marginal recovery, to 15%. No probabilities can be attached to any of the variants, and the actual outcome could lie outside the higher limit, for such reasons as those given in paragraph 8 above.

Overseas and mature home entrants (other than postgraduates)

11. Projections for both these groups of entrants are based mainly on past trends modified by known factors. For mature home entrants this means taking account of the reduction in opportunities for mature teacher trainees and of the effect of increased fees for the minority without grants; population projections for the 21–30 year-old age group are also taken into consideration. For overseas students, the restriction on numbers beginning in 1977/78 has been taken into account. For the longer term it is clearly unrealistic to

assume that policies on fees and overseas students will remain unchanged for 15 years, but it is necessary to include some figures to illustrate total student numbers. Three variants are used for the total number of mature and overseas entrants for the period up to 1981/82, after which each is held constant until 1994/95.

Postgraduates

12. Postgraduates in the university sector are projected as separate flows: home student entry is assumed to reflect the output of graduates with good first degrees; for overseas students trend projections have been modified to take account of announced restrictions. Postgraduate numbers in the non-university sector are small, and these are carried through the calculations with the other students.

Course length

13. The series for total student numbers are obtained from the separate entry streams using a conversion measure derived from historic series of total student numbers related to total entrants, treating the main sectors separately. These measures have been projected on current aggregate values which have been fairly stable in the past. The measures could change if, for example, two-year courses became more popular or wastage rates altered, but the present projections make no allowance for this kind of imponderable.

The total projection

14. Table 5 below shows in some detail the sum total of projections calculated on the respective bases described above. The upper, medium and lower variants mainly reflect the inclusion in the totals of variant assumptions about the APR of young home entrants.

15. The central line shows numbers projected to remain at about the current level for another two or three years (reflecting in particular current constraints due to fee levels and overseas student policies) and then to rise steeply to about 560,000 by 1981/82. This rate of rise is projected to continue for a further two years, after which the rate of growth tapers off and numbers remain at about 600,000 (plus or minus 5,000) through the second half of the 1980s. There is then a sharp decline equivalent to the rate of growth between 1979 and 1981.

16. The upper variant involves an increase to a peak of 662,000 in 1989/90 and the lower variant a peak of 551,000 in 1984/85. From the end of the 1980s both these variants show the same sharp decline as the central projection. This is because of the predominance of young home entrants in the make-up of total numbers coupled with the flattening off and subsequent decline in the 18 year-old age group in the 1980s. If the projected fall in demand at the end of the period were to be offset by increasing numbers of young home entrants, the APR for this group on any of the three variants would have to rise by about five percentage points over the five years to 1994/95. Though such a marked improvement in participation rates would not be wholly unprecedented, necessary caution dictates the assumption that it will not occur without some new and substantial stimulus at the time.

Table 5: **GB Higher education numbers from 1960/61 and statistical[1] projections to 1995/96**

Academic year	January 18 age group	Qualified leavers[2]	CENTRAL PROJECTION: Age part'n rate	Home entrants under 21	Mature entrants	Overseas entrants	All initial entrants	Total student numbers	VARIANTS: Low	VARIANTS: High
	(000's)	(000's)	(%)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)
1960/61	700	43.0	6.9	48	14		62	179.0		
1961/62	735	48.6	6.9	51	13		64	192.5		
1962/63	749	56.6	7.2	54	15		69	215.9		
1963/64	745	60.0	8.1	60	17		77	237.0		
1964/65	848	68.3	8.0	68	20		88	268.3		
1965/66	906	82.9	8.9	81	21		102	303.0		
1966/67	834	85.5	10.5	87.6	17.7	6.1	111.4	339.2		
1967/68	790	89.9	11.8	92.9	23.2	5.6	121.7	379.0		
1968/69	763	94.5	12.8	97.4	27.7	5.6	130.7	410.4		
1969/70	741	97.6	13.7	101.2	26.7	5.7	133.6	429.9		
1970/71	744	102.4	13.8	102.6	27.3	6.1	136.2	446.3		
1971/72	760	108.1	14.0	106.1	29.2	6.9	142.1	463.8		
1972/73	752	109.9	14.2	106.9	28.1	7.7	142.7	473.4		
1973/74	752	111.9	14.0	105.2	29.6	9.6	144.3	480.9		
1974/75	776	113.1	13.6	105.5	30.5	11.9	147.9	487.0		
1975/76	800	115.3	13.4	107.4	31.4	15.2	154.0	504.7		
(1976/77)	(822)	(122.2)	(13.0)	(107.2)	(33.0)	(17.1)	(157.5)	(516.0)		
1976/77[3]	822	122.2	13.5	110.9	31.7	16.3	158.9	519.6	519.6	519.6
1977/78	831	128.6	13.5	112.4	29.5	14.2	156.1	522.1	521.2	523.9
1978/79	859	132.9	13.6	117.1	29.8	13.0	159.9	526.0	521.3	530.7
1979/80	881	138.7	13.9	122.5	30.0	12.2	164.7	531.8	521.3	543.0
1980/81	906	144.8	14.2	128.5	30.1	11.4	170.0	545.7	527.2	565.5
1981/82	918	149.9	14.6	134.4	30.3	10.8	175.5	563.6	533.5	590.0
1982/83	941	153.6	14.9	140.2	30.3	10.8	181.3	581.2	542.0	616.6
1983/84	926	155.4	15.2	140.4	30.3	10.8	181.5	594.4	548.0	635.8
1984/85	909	155.7	15.4	140.1	30.3	10.8	181.2	601.9	550.9	648.0
1985/86	893	156.1	15.7	139.9	30.3	10.8	181.0	603.5	549.3	653.4
1986/87	878		15.9	139.9	30.3	10.8	181.0	603.1	545.9	656.4
1987/88	855		16.2	138.4	30.3	10.8	179.5	601.3	541.6	657.8
1988/89	842		16.5	138.5	30.3	10.8	179.6	599.8	537.5	659.3
1989/90	834		16.7	139.3	30.3	10.8	180.4	599.2	534.4	661.8
1990/91	777		17.0	131.8	30.3	10.8	172.9	592.1	525.8	656.7
1991/92	729		17.2	125.5	30.3	10.8	166.6	579.2	512.4	644.7
1992/93	693		17.5	121.1	30.3	10.8	162.2	561.2	494.8	626.8
1993/94	652		17.7	115.7	30.3	10.8	156.8	542.7	476.9	607.9
1994/95	630		18.0	113.4	30.3	10.8	154.5	528.5	462.9	593.7
(1995/96)	(622)		(18.3)	(113.6)	30.3	10.8	(154.7)	(519.5)	(453.5)	(585.4)

The above figures are for Great Britain. The Scottish Education Department have made separate projections for total higher education student numbers in Scotland (including students at Scottish universities) as follows:

	1976 (Actual)	1981	1982	1984	1986	1988	1990	1992	1994
Low		67	67	68	69	69	69	69	68
Central projection	69	73	74	76	78	79	80	79	78
High		76	78	82	86	88	89	90	89

Notes: [1]Allowing for fees and quota restraints

[2]Qualified leavers are those with 2 or more A levels or 3 or more Scottish H Grades

[3]Estimated at time of projection. Bracketed figures give the latest provisional figures for 1976/77